



Is This Bud for You?

It's in gummies, tinctures, lotions, seltzers, and more. CBD, a compound derived from the cannabis plant, is pretty much everywhere you turn these days. And about 62% of people taking CBD are using it to treat a medical condition, such as pain, anxiety and depression, according to a report in *Cannabis and Cannabinoid Research*. But what does the science say? We've got the answers to your questions.

By Holly Pevzner

First things first: What exactly is it?

CBD is a natural compound called a cannabinoid found in hemp and marijuana, two varieties of the *Cannabis sativa* plant. Cannabinoids influence signaling pathways between cells (basically how cells talk to each other), potentially impacting multiple systems in your body. However, unlike its chemical cousin THC (which is only in marijuana), CBD does not have psychoactive effects, meaning it won't get you stoned. "In fact, our bodies naturally churn out chemicals that are very similar to CBD," says Debbie Petitpain, M.S., R.D.N., spokesperson for the Academy of Nutrition and Dietetics.

What do all those over-the-counter CBD products do?

"There may be some benefit for those with sleep problems, anxiety or pain, but the evidence to support this is largely anecdotal," says Brent A. Bauer, M.D., director of research for the Integrative Medicine and Health Program at the

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Mayo Clinic in Rochester, Minnesota. Currently, there's a lack of high-quality studies in humans about CBD's efficacy. That's because prior to the 2018 Farm Bill, which made CBD derived from hemp federally legal, hemp was highly restricted. "This made it very difficult for medical centers to obtain products to test in clinical trials," says Bauer. "Basically, obtaining CBD required a lot of red tape, which discouraged research."

Most of the studies showing promise have been conducted with mice. A report in the *European Journal of Pain* showed that topical CBD diminished pain and inflammation associated with arthritis in rodents. And rats that were given CBD for seven days displayed fewer signs of pain and anxiety, according to a 2010 study in the journal *Pain*. Another report—this one a review of research in the journal *Neuropsychopharmacology Reviews*—boldly stated that there's "an overwhelming body of convincing preclinical

evidence" (preclinical meaning not tested in humans) that indicates cannabinoids can block inflammatory and nerve-based pain. But according to Petitpain, "We need more clinical research to really show who benefits, and at what dose."

The exception to this: "There is one prescription product that's achieved FDA approval for treating seizures in children with a rare form of epilepsy," says Edward Mariano, M.D., M.A.S., a professor of anesthesiology, perioperative and pain medicine at Stanford University School of Medicine. There's also a CBD/THC combo drug called Sativex that shows promise at alleviating cancer pain that is chugging along through phase 3 clinical trials, on track to be approved by the FDA. (Sativex is already available in 29 countries.)

Is it safe? The World Health Organization notes that CBD is generally well tolerated and has a good safety profile. Much like vitamins and supplements, though, CBD isn't subject to government oversight for safety or efficacy in the U.S., but the FDA notes that it could have side effects (namely diarrhea, drowsiness and irritability), may interact with other medicines you're taking and shouldn't be used by pregnant or nursing women.

What's next for CBD? Mariano, for one, is working hard to make sure that more research is in our future. He and fellow members of the American Society of Anesthesiologists recently endorsed bills in the House and the Senate that seek to increase the number of high-quality, registered manufacturers that produce cannabinoids for research purposes. "Once we do that, researchers can actually get what they need to do studies on CBD," says Mariano. "We know that there are many different types of cannabinoids that potentially have medical use, which is exciting. And clearly a lot of people, physicians included, are trying to find new ways to manage health issues. Until then, we are still very much in pioneer territory."

The chemical compounds in hemp are most highly concentrated in the flower of the plant (opposite). Harvested hemp is loaded into an extraction machine (above, left). The extraction process uses high pressure and high temperatures to pull out the cannabinoids, resulting in a gold-colored extract (right).



Want to try CBD? Hover your phone's camera over this smart code for 7 things to know before you buy.